

# GREEN MATTERS

A newsletter from the Alberta Environmentally Sustainable Agriculture Council

## Setting a Standard, Measuring Success

From AESA  
Council's  
Chair

by Bruce Beattie,  
Alberta Milk Producers

*We have a responsibility  
to meet the standards  
of our customer, and we  
have the technology to  
achieve that success.*

The Farm Based and Processing Based programs, two of the main components of the Alberta Environmentally Sustainable Agriculture (AESA) Program. Their aim: to encourage practices that are sustainable and environmentally sound, from basic production through to final processing. Sustainability is a long-term concept, demanding strategies that will help keep both the environment and the bank account healthy.

In today's market, that is no easy task. In the developed world, most people are lucky. They are no longer concerned as to whether they have food, but rather where did it come from, how was it produced and is the price right? It is likely that we have the most abundant and safest food supply in history, and yet our customer is concerned: is it safe? is it pure? In addition, our urban cousins want a clean and sweet smelling countryside to visit when the spirit moves them.

This is not necessarily bad. We have an incentive to improve how we do business. We can capitalize on the image of Alberta, of open spaces and a pristine environment. We have a responsibility to meet the standards of our customer, and we have the technology to achieve that success. More efficient use of resources can reduce inputs, an environmental benefit, while increasing profits. The development of beneficial management practices has been the foundation of that process.

Many commodity groups, working within their membership and with professionals, have developed practical and effective guidelines for producing quality products with minimal impact on the environment. These efforts are only successful when the procedures are well explained, practical and easily adopted. In most cases, small changes can achieve significant results. Strategies for reducing greenhouse gas emissions are a case in point, where reductions can be achieved simply through reduced tillage and improved nutrient management techniques.

Developing standards is only part of the story. Just as important are methods to measure the impact of the changes we make. Across Canada, the new buzzwords in the industry are 'assessments' and 'audits'. Just as accountants need to check the books to see if they balance, we need to measure the impact of our programs and practices. Assessments bring the process full circle, from recommendations, to adoption, to monitoring and evaluating our efforts.

The last, but not least important piece in the puzzle is sending the message. We must now tell the customer about our progress. Enter Alberta's Agriculture and Food Council and its Growing Alberta communications program. Working together we can effectively spread the word about our commitment and success in keeping Alberta both prosperous and 'green.'

### WHAT'S INSIDE

Assessments & Sustainability

Energy Audits a Win-Win  
Option for Processors

Ontario's Voluntary, Farmer-  
Driven Assessment

Council Profile: Gary Lilge

Council Profile: Andrew Cullen

ESA Chair at UofA

New Faces on AESA Council

Issue No. 5, Fall 2000



Courtesy Alberta Agriculture, Food and Rural Development



# ASSESSMENTS

## — Part of a Strategy for Sustainability



Courtesy Alberta Agriculture, Food and Rural Development

“We are working on improving our industry’s environmental performance through research, assessment systems, beneficial management practices manuals, and standards backed up by regulations,” says Paul Hodgman of Alberta Pork. For Alberta Pork, an environmental assessment process is one aspect of ensuring the sustainability — economic, environmental and social — of the agriculture and food processing industries.

Alberta Pork is part of the Intensive Livestock Working Group (ILWG), along with the Alberta Cattle Feeders’ Association, Alberta Chicken Producers, Alberta Cattle Commission and Alberta Milk Producers. This informal alliance is working with Alberta Agriculture, Food and Rural Development on a wide variety of activities to ensure environmentally responsible livestock operations.

As part of this effort, the ILWG and Alberta Agriculture are considering the development of a farm environmental assessment process (see box for definitions). The project team plans to adapt Ontario’s process (see “Voluntary & Farmer-Driven — Keys to Ontario Assessment”) to suit Alberta conditions. The team hopes to work with other organizations, including cropping sector agencies, to develop a ‘whole farm’ process, looking at everything from fuel storage, to pesticide management, to manure handling.

The ILWG’s Dr. Joyce Van Donkersgoed is one of the people leading the assessment project. She says an assessment is a way to assure neighbours, municipalities, consumers and others that a business is environmentally sound. As well, the assessment process can help a farmer adapt beneficial management practices (BMPs) to suit his or her operation. An assessment also includes

a record keeping system that benefits the whole operation. And it helps in showing due diligence.

“Under Alberta’s Environmental Protection and Enhancement Act, farmers are required to show due diligence,” says Van Donkersgoed. Due diligence means that you took all reasonable care to prevent mishaps. “Implementing BMPs, conducting a regular environmental assessment and making improvements as needed, and having records to verify practices and corrective

actions, are steps that producers can take to show due diligence,” she says.

Some people wonder whether having an assessment might increase their legal liability, if they fail to implement some of the recommended changes

right away. The project team is developing the process as an educational tool, not an enforcement tool. Alberta Environment’s policy encourages voluntary assessments, and the project team plans to work with Alberta Environment to ensure that the process is set up in such a way that Alberta Environment will recognize it.

The ILWG agencies are also developing BMP manuals for their sectors. These manuals could provide criteria for the assessments.

Says Hodgman, “We are concerned about the same issues as the public. We want a healthy environment for our families and our communities. We’re proud of what our industry is doing to ensure a healthy environment.”

**For more information, contact**  
**Joyce Van Donkersgoed**  
(phone: 403-782-5153,  
email: [donkersg@telusplanet.net](mailto:donkersg@telusplanet.net)) or  
**Darcy Fitzgerald of Alberta Agriculture**  
(phone: 780-422-2522,  
email: [darcy.fitzgerald@gov.ab.ca](mailto:darcy.fitzgerald@gov.ab.ca)).

Voluntary assessments from a ‘whole farm’ perspective

### What the heck is an environmental assessment?

Terms like “environmental assessment” and “environmental audit” are sometimes used in different ways. In this issue of *Green Matters*, we’re defining these terms as follows:

- An **environmental assessment** refers to an informal evaluation to compare the operation’s practices with a set of recommended beneficial management practices (BMPs). It is an educational tool to improve the operation’s environmental performance.
- An **environmental audit** is more formal than an assessment and includes third-party verification. It is usually done to ensure that the facility is operating within the law.

Audits and assessments both involve a systematic process which includes the following stages:

- identifying any existing or potential environmental problems, often with respect to a set of criteria for good performance.
- preparing an action plan to address those problems.
- promptly implementing the action plan.
- regularly evaluating progress.

**Beneficial or best management practices (BMPs)** are cost-effective, practical methods that minimize negative environmental impacts.



# Energy Audits

## — a Win-Win Opportunity for Processors

Alberta's food and beverage processors are showing keen interest in a new voluntary energy and greenhouse gas audit project. It is designed to help them reduce greenhouse gas emissions by cutting energy costs. "The energy audit approach allows us to work directly with processors, and tailor responses unique to their individual location and product," explains Ken Gibson.

Gibson is the President and Chief Executive Officer of the Alberta Food Processors Association (AFPA). This non-profit member organization is committed to helping Alberta food and beverage companies compete in the domestic and global marketplace.

Energy use is the leading source of greenhouse gas emissions for the food and beverage processing industry. On an earlier AESA-funded project, AFPA teamed up with Information Technology Specialists (ITS) to develop and deliver information on energy-saving options for processors. That information has been presented in a manual and at workshops attended by over 60 companies.

"We asked processors at the workshops what they would like to see for the next step," says Brian Mitchell of ITS. "They wanted specific details on both the economics and environmental benefits of reducing energy inputs." The energy audit project will be gathering those details.

Because emissions have continued to increase since 1990, this means a real reduction of about 25% from today's levels.

Says Mitchell, "We plan to do pilot projects in each of the six major sectors of Alberta's food and beverage processing industry, to compile the results and move the information out to each sector. Processors will have very specific case studies on how a competitor has reduced input costs. I think that will be a tremendous motivator to encourage other companies to move on reducing energy inputs and greenhouse gas emissions."

Audits will be done at 18 small to medium-sized AFPA-member firms interested in participating. "First, DukeSolutions does a walk-through audit to identify areas where energy use could be reduced, and ITS reviews the company's utility bills to establish a baseline on energy use and greenhouse gas emissions," explains Mitchell. Then ITS and DukeSolutions meet with the processor to discuss the energy-saving opportunities, why greenhouse gas emission reductions are important, the benefits of making changes, and what's involved in making the proposed changes.

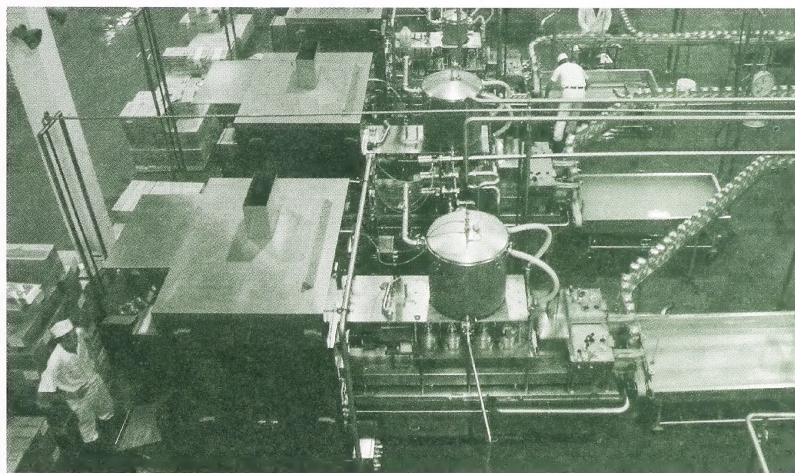
If the participating company is interested in making changes, DukeSolutions will conduct a detailed feasibility study and recommend specific actions. If the participating company wants to implement those recommendations, DukeSolutions will provide financing for the required capital upgrade from guaranteed energy savings and will make the changes.

Participants will also be registered under the AFPA banner with the Voluntary Climate Change Registry, Canada's national greenhouse gas registry. Registration will ensure credit for early actions on emissions and provide a means of verifying industry performance, as well as allow marketing of greenhouse gas credits, if that becomes an option in the future.

Interest in the project is high. "The project's goal is to provide initial audits and project services for 18 companies, covering 18 to 20 facilities," Mitchell says. "Since AESA funding was approved and the project was launched on August 1, we've had 31 companies express interest in participating, incorporating 44 facilities, and we have another six agreements pending."

Gibson says, "Greenhouse gas reduction represents a tremendous win-win opportunity. Our firms can improve their stewardship of the environment, while improving cost competitiveness and improving profits." The energy audit project will help processors realize this opportunity.

**For more information, contact Ken Gibson (phone: 780-444-2272, email: [ken@afpa.com](mailto:ken@afpa.com)) or Brian Mitchell (phone: 780-892-3594, email: [bmitchell@its-canada.com](mailto:bmitchell@its-canada.com)).**

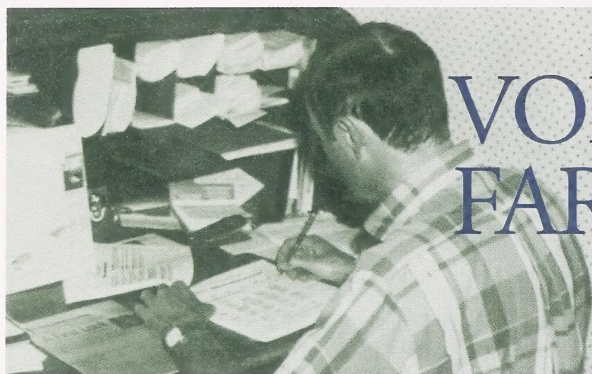


Audits will look for energy-saving options in every facet of a processor's operation.

Partners in this new cost-shared project include AFPA, ITS, DukeSolutions Canada, Inc. (an energy services company), the Office of Energy Efficiency at Natural Resources Canada, the Process Integration Division of CANMET, and AESA's Processing Based Program.

One of the project's main objectives is to demonstrate that a 25% reduction in greenhouse gas emissions is achievable. Canada has committed to reduce the nation's greenhouse gas emissions by 6% from 1990 levels.





# VOLUNTARY & FARMER-DRIVEN

## Keys to Ontario Assessment

### Completing an EFP checklist

"We've got a good thing going here — voluntary, farmer-driven, and it's working!" says Andrew Graham. He's describing Ontario's Environmental Farm Plan (EFP) program. About one-third of Ontario farmers have participated in this award-winning assessment program since it started in 1993.

Graham is the Stewardship Programs Coordinator for the Ontario Soil and Crop Improvement Association. This farm organization delivers the EFP on behalf of the Ontario Farm Environmental Coalition, which represents over 30 Ontario farm organizations. The Ontario Ministry of Agriculture, Food and Rural Affairs provides technical support for the program, and the Canadian Adaptation and Rural Development Fund provides funding.

"The EFP allows the farm family to rate their current management practices in 23 different worksheets, each dealing with a different issue," explains Graham. "Management and potential environmental risk is rated as 'poor', 'fair', 'good' and 'best'. Any provincial regulations are reflected in the 'good' ranking. The best category is an encouragement for farmers to go beyond minimum government standards."

This checklist approach "identifies not only what needs to be improved, but also highlights what the family is doing well," notes Graham. "All the poor and fair ratings are voluntarily addressed in the action plan." Participants assess their own farm using the checklists and then determine

the actions and time frame for addressing any concerns. The entire process is voluntary and confidential. The EFP workshops, workbooks and best management practices manuals are free for participants.

Participants can voluntarily submit their plan for peer review by a team of three trained local farmers. If the team deems the plan to be appropriate, then the farm family is eligible for a \$1500 grant and to participate in the \$1000 EFP Award Contest.

"The \$1500 doesn't come close to paying for the identified improvements," says Graham. "It is intended as a gesture from society to help get things going in the right direction." Data collected on expenditures show that "each dollar of grant stimulates about \$3 towards the same project by the farmer." The EFP Awards for innovative environmental projects help promote the program and its results.

A recent evaluation of the EFP program shows that "people are coming out of the workshops with a better understanding of issues and a motivation to take action," says Graham. To date, 18,400 farm families have participated, 11,000 plans have been deemed appropriate in the peer review process, and 7800 participants have claimed the \$1500 incentive.

**For more information, visit <http://www.ontariosoilcrop.org/> and follow the links.**

## More examples of farm environmental assessments

Many agricultural agencies across North America have voluntary environmental assessment or audit systems in place or under development. Here are a few examples.

### Early examples

- In Alberta, a third-party audit program was available from the 1970s to mid-1990s for livestock producers to obtain a Certificate of Compliance. In the late 1980s, Alberta Agriculture initiated farm conservation planning workshops which used a self-assessment approach. Those workshops have evolved into today's precision farming and nutrient management workshops.
- In the early 1990s, Alberta Pool developed *The Farm Environmental Risk Assessment Guide: A Voluntary Self-directed Workbook*. This coming year, Agricore (formally Alberta Pool) will be assessing the need for a similar guide and the opportunity to develop a new guide for prairie farmers, jointly with government, educational agencies, and other farm organizations.

### Targeted approach

- The Alberta Riparian Habitat Management Program, better known as Cows and Fish, uses an assessment system for riparian areas. These 'green zones' along the edges of streams and lakes are key to maintaining environmental quality. An interested producer or community group works with program staff to complete the confidential assessment process. The assessment determines riparian health and identifies practical solutions, if any problems are found.

### Third-party approach

- In the United States, the National Pork Producers Council has developed a voluntary auditing program in cooperation with the U.S. Environmental Protection Agency. Trained, independent teams conduct the audits. Producers who promptly correct any violations detected by the audit face substantially reduced fines. (Go to <http://www.nppc.org/> for more information.)
- The Canadian Pork Council is developing a national assessment system with third-party certification, as a way to assure the public that the hog industry is environmentally responsible. (See <http://www.canpork.ca/> for more information.)



## Gary Lilge

"Farmers live right where they work. Most of us are careful about how we manage our inputs because we're the ones who are going to be affected first," says Gary Lilge. "Health-wise, crop-wise and cost-wise, applying herbicides or fertilizers incorrectly doesn't make sense."



On his farm south of Valleyview, Lilge grows wheat, oats and barley, with some peas and canola. As a farmer, he knows that agricultural practices need to be both environmentally and economically sound.

Lilge was born and raised in the Spirit River area of Alberta. He has a degree in metallurgical engineering from the University of Alberta. Although his degree "sits in a drawer", it helped him to learn how to think logically and systematically. He uses that skill in his daily life — like when he decided to get into direct seeding in 1990.

He analyzed his tillage and seeding options from various aspects, including fuel savings, moisture conservation and soil conservation, as well as equipment costs and crop yields. He saw the advantages of direct seeding and minimized the risks by keeping equipment costs down. "We used a hoe drill which could also be used for conventional tillage if direct seeding didn't work out."

On AESA Council, Lilge represents the Peace Region's Committee for AESA's Farm Based Program. This program provides funds to local agencies to promote environmentally sound agricultural practices. Each region has its own committee to ensure that the program addresses local needs.

"The Farm Based Program allows farmers to see new technologies," says Lilge. "With demonstration plots close to their own place, they can see if the practice will work, before investing in the changes."

He applies his logic and bottom-line perspective as a member of AESA Council's Greenhouse Gas Task Team. "I guess I'm a naysayer or a challenger. I want to be sure that we have good numbers and good science before we recommend making any changes. Especially when we have to make costly changes, I want to make pretty darn sure that we are going in the right way."

Lilge believes farmers will make changes to better protect the environment if the changes also make economic sense. "We just have to make sure that people have the information they need to make the changes." Through its research, monitoring and technology transfer programs, AESA is helping to do that.

## Andrew Cullen

With a career that has taken him to many parts of Canada to work on diverse resource management issues, Andrew Cullen brings a broad perspective to AESA Council.

Originally from Charlottetown, P.E.I., Cullen has a Master's degree in Civil Engineering from the University of New Brunswick. After graduation, he worked for Fisheries and Oceans Canada as a habitat protection engineer in the Maritimes. Then he moved to Yellowknife and worked for the Department of Indian and Northern Affairs, managing water resources for the Northwest Territories.

In 1987, he joined Prairie Farm Rehabilitation Administration (PFRA) as manager of Engineering Services in Calgary. A few years later, he became director of PFRA's Southern Alberta Region.

Cullen represents PFRA on AESA Council. He brings PFRA's viewpoint as well as his own experience and expertise to Council's discussions and activities.

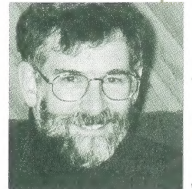
Initiated in the 1930s, PFRA has been working with prairie people ever since to create a strong agricultural industry and a sound rural economy, while maintaining a healthy environment. It serves the three Prairie provinces and the Peace River region of British Columbia with ongoing programs and short-term initiatives.

"PFRA wants to ensure that agriculture can continue, while ensuring the continued health of the environment," explains Cullen. As a result, it's involved in all kinds of activities related to soil and water management.

"In terms of water resources, PFRA is involved in developing concepts and studies for water development for rural groups and communities, and in helping projects get implemented. PFRA is also involved in individual water use activities related to both quality and quantity. In terms of land resources, we're involved in soil conservation, to help ensure that agricultural practices are not contributing to deterioration of soil quality, so farmers can continue to grow crops and have productive pastures."

To meet its goals, PFRA actively seeks out partnerships with individuals, community groups, the private sector, wildlife groups, and other government agencies. For example, PFRA is a partner in numerous AESA activities, including the AESA Water Quality Monitoring Program and many of the local projects in AESA's Farm Based Program.

Cullen enjoys the strong working relationship with AESA Council. "AESA and PFRA have very similar goals, so there's a good opportunity for synergy."



Courtesy Pam Cullen





3 3286 52205977 9

# New ESA Chair at U of A

Dr. Les Fuller has an exciting and challenging task ahead. Fuller is the new Chair in Environmentally Sustainable Agriculture (ESA) at the University of Alberta. He'll be conducting leading-edge, multidisciplinary research on key ESA issues, carrying out technology transfer in cooperation with extension agencies, and educating University students in ESA.



Courtesy Les Fuller

Fuller

Alberta Agriculture provided a \$900,000 grant to the University of Alberta in April 2000 to establish the Chair. The grant will support the Chair over the next six years, enhancing the University's leading role in resource stewardship research and education.

Representatives from AESA Council worked closely with the University to select Fuller for the position. AESA Council will continue to advise and work with the Chair and the University to help identify priority issues for research.

Fuller comes to the position with strong academic, industry and government experience. Most recently he worked for AXYS Environmental Consulting in Calgary as manager of its Soil and Terrain Division and its Agronomics Division. He was an Assistant Professor at the University of Manitoba and has worked for Manitoba Environment and Agriculture Canada.

Fuller's recent research and technology transfer efforts have focused on: soil and water processes and how they affect the movement of agricultural chemicals in the environment; nutrient management; and intensive livestock operations. He grew up on a mixed farm in Saskatchewan.

**For more information on the Chair, contact Doug Hall, chair of AESA's Environmental Chair Committee, at 403-948-2630, or John Hermans of Alberta Agriculture at 780-427-3908.**

## AESA Council: Members on the Move

This fall, AESA Council has some new faces among its 29 members:

- Page Stuart has replaced Jeff Warrack as the representative of the Alberta Cattle Feeders' Association.
- Dennis Nanninga has replaced John Pearson as the Agricore representative.
- Aaron Falkenberg has replaced Frank Fallwell as the Growing Alberta representative.

## Feedback

Please send your comments on *Green Matters* or your thoughts on topics in environmental stewardship to:

**Carolyn King**  
Alberta Agriculture, Food and  
Rural Development  
Conservation and Development Branch  
206, 7000 - 113 Street  
Edmonton AB T6H 5T6

*Green Matters*, Issue No. 5, Fall 2000

©AESACouncil, 2000

*Green Matters* is the newsletter of the Alberta Environmentally Sustainable Agriculture (AESACouncil). AESACouncil consists of 29 representatives from Alberta's agriculture and food processing industry, environmental organizations and government. Its mandate is to: identify and evaluate environmental issues facing Alberta's agriculture and food processing industry; encourage the industry to proactively address these issues; advise the Alberta Minister of Agriculture, Food and Rural Development on these issues; and direct the AESA Program.

The purpose of *Green Matters* is to provide a forum for discussion of environmental issues in Alberta's agriculture and food processing industry.

To subscribe to *Green Matters*, call 780-422-4385.

Editorial Board: Bruce Beattie, John Kolk, Dave Ritchie  
Editor: Carolyn King  
Contributors: Carolyn King, Bruce Beattie  
Design and Typesetting: P40 Visual Communications



Alberta Environmentally Sustainable  
Agriculture Program